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TECHNICAL NOTES

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ROCKY MOUNTAIN STATION

STN PUB ALASKA FOREST RESEARCH CENTER

U. S. DEPARTMENT OF AGRICULTURE, FOREST SERVICE

JUNEAU, ALASKA

No. 3

First Results of Thinning in Alaska

In a 30-year-old densely-stocked stand of hemlock-spruce, one small plot was thinned in 1929; another left as a check. The site index was 70 feet at 100 years, 40 feet below the average for second-growth in Southeast Alaska. Results in 1949, which are only of value as preliminary indications due to lack of replication, are summarized below:

1. Thinning removed 77 percent of the trees, taking out the small, low vigor individuals. Nature took 5 percent more. The check plot thinned itself, losing 78 percent of its trees.
2. A 2.0-inch average d.b.h. before thinning was converted to 2.8 inches by thinning. After 20 years the average d.b.h. was 4.5 inches. The check plot, starting with a 2.3-inch d.b.h. finished the 20 years with the same average d.b.h. as the thinned plot, or 4.5 inches.
3. The thinned plot starting with a basal area of 216 square feet per acre was thinned to 110 feet. It increased to 214 feet in 20 years. The check plot reduced itself from 244 to 210 square feet in the same period.
4. Rate of height growth was approximately the same on the two plots.
5. The results from this small plot indicate that nature can take care of dense stands of this age and as the small sized material removed in thinning has no commercial value, it may be best to let nature take its course. Future tests on a more adequate scale, and covering a variety of sites and age classes, may change this preliminary opinion.

Comparison of thinned and check plot

	: No. trees per acre			: Average d.b.h.			: Basal area		
	: Spruce	Hem.	Total	: Spruce	Hem.	Aver.:	: Spruce	Hem.	Total
Before thinning	: 3,446	7,313	10,759	: 2.15	1.8	2.0	: 87.3	128.3	215.6
After thinning	: 1,104	1,367	2,471	: 2.7	2.9	2.8	: 45.2	64.4	109.6
After 20 years	: 815	1,129	1,944	: 4.6	4.4	4.5	: 96.1	118.3	214.3
Check plot 1929	: 1,834	6,831	8,665	: 2.8	2.1	2.3	: 80.7	163.5	244.2
Check plot 1949	: 633	1,233	1,866	: 4.8	4.4	4.5	: 80.1	129.7	209.9

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